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AUTHOR Nicholson, Joanne; Standley, Kay
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ABSTRACT

An instrument for naturalistic observation in the childbirth environment is presented. Observable features of the parturient woman's physical state, stimulus contact she experiences, and themes of conversations with the woman are recorded using a system of categories to time-sample in cycles of 30 seconds for observing followed by 30 seconds for recording. A conceptual model is presented which highlights data provided by the childbirth observation instrument. The focus of the model is maternal coping during labor and delivery and postpartum evaluation of the experience. The model emphasizes interactions between individual physiological and psychological characteristics and physical and social environmental characteristics. The childbirth model encompasses general determinants of childbirth behavior, cognitive appraisal of childbirth, the woman's psychophysiological adaptability, childbirth environment stimuli, and the outcomes of childbirth competence and postpartum childbirth affect. Sample variables are suggested for each component of the model. Relationships to be tested are outlined in sets of sample hypotheses. Additional research applications of the childbirth observation instrument are discussed. (Author/RH)

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A Method for Naturalistic Observation of the Childbirth Environment: With Application to Theory Building and Research

Joanne Nicholson, M.S. and Kay Standley, Ph.D.

Social and Behavioral Sciences Branch
National Institute of Child Health and Human Development
Bethesda, Maryland

PS 010406

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Introduction

The psychological significance of childbirth is an increasingly popular focus of social and research interest. Parents and parents-to-be, nurses, physicians and others involved in health care delivery, and researchers in varied disciplines of human development and medicine are coming to appreciate the events of childbirth as experiences which impact on the psychological and physical health of the new family as well as on the mother, father, and infant.

Research on the perinatal period has generally emphasized postpartum events--especially parent-infant interaction (Osofsky, 1976). Recent attention has been paid to bonding, and the influence of childbirth and immediate postpartum events on the developing parent-child relationship (Klaus and Kennell, 1976). Social scientists interested in family development have examined the transition to parenthood, and the effect of the birth of a child on the marital relationship (Hobbs and Cole, 1976).

With growing interest in "prepared" or "natural" childbirth, many people are planning actively for childbirth. Couples are encouraged to study health care alternatives and become aware of options available to them. The burgeoning consumer health movement is influencing the policies of physicians and hospitals seeking to meet the demands of informed parents. The short- and long-term effects of these changes have yet to be explored. For example, how does the presence of a husband influence a woman's ability to cope with the stress of labor? Does the woman who is coping well receive less medication? What are the effects of less medication on infant and maternal outcomes? The presence of a supportive relative or friend may be even more critical for the unmarried teenager, for whom childbirth is a frightening unknown.

Evaluation of issues such as these has been limited by research methods available. Data on childbirth have been taken primarily from hospital records, summarized from observations in terms of "intensity of physical pain" or "difficulty of labor" and obtained from mothers by retrospective interviews. Therefore, a method for naturalistic observation of the childbirth environment has been developed which provides detailed data on the physiological and psychological experience of the woman in labor. This instrument allows testing of relationships suggested by a model of maternal coping with labor and delivery and postpartum evaluation of the experience.

The "State of the Art" in Childbirth Research

There have been several studies which incorporate observation of the childbirth environment, or more specifically, the woman in labor. Bender (1963) and her co-investigator Tryon (1966) observed the behavior of women at 60- and later, 30-minute intervals in labor. After the first observed contraction, the woman's physical and vocal activity, and verbal expressions of attitude in response to questions about how she felt were rated. Bender used the incidence of vomiting as her outcome variable to assess the effectiveness of supportive (experimental) nursing care. Tryon focused on the use of comfort

measures in the experimental nursing and control nursing groups. Women who received supportive nursing care did not vomit, and used comfort measures more effectively. Unfortunately the investigators alternated as observer and experimental care nurse, thus limiting the objectivity of the findings.

The foci of Werts, Gardiner, Mitchell, Thompson and Oliver's (1965) work were patient behaviors used by hospital personnel in making judgments about the difficulty of labor, and social and physical factors related to labor difficulty. Two nurses, who were not part of the hospital staff, recorded women's movements and verbalizations throughout labor. Selected variables were rated from the behavior protocols. Complete medical information about labor, and the woman's age and educational background was obtained. The findings indicated the relative importance of body tenseness, writhing, complaining and moaning to ratings of labor difficulty. More highly educated women had less difficult labors. While a focus of this study was actual behavior of women in labor, there was apparently no standardized method of recording both labor behavior and the social and medical interactions involving the woman.

Davenport-Slack and Boylan (1974) rated body tenseness as observed every half hour in a sample of 75 patients. Women's behavior and vocalizations were rated from calm to agitated, and from quiet to screaming. Body tenseness was correlated with a lack of childbirth training, less education, negative and dependent childbirth attitudes, younger age, and the administration of more medication.

Another common research approach has been the interviewing of mothers postpartum, despite well-known problems with retrospective data. Doering and Entwisle (1975), for example, investigated the effects of preparation for labor and delivery on women's perceptions of childbirth and feelings toward their babies. Women were asked about the medication they received and their level of consciousness and attitude toward birth "within nine weeks" postpartum. The authors concluded that more prepared women were "more aware" at delivery and had more positive reactions to their infants.

Research to date is often conducted by nurses or physicians who are participant observers, i.e., by virtue of their staff status they have access to women in labor. Distortion may be evident in retrospective data learned by social scientists from women after the childbirth experience. There has been no attention to objective, empirical assessments of the environment and experience of birth. These studies illustrate the need for a systematic method for observation of behavior in the childbirth environment.

Description of the Observation Instrument

Methods of naturalistic observation offer a pertinent approach to the more detailed study of childbirth. Drawn from ethology, such methods focus on human behavior in natural settings which are not manipulated by the researcher. A method of observation becomes more refined as the researcher looks for trends in what is observed and establishes categories of events or behaviors.

Such an instrument for observation in the childbirth environment has been developed. From observations in the hospital labor setting, behaviors which were observed consistently were grouped into categories. A trained observer using this instrument assigns systematic codes to behaviors which are observed.

The observation instrument is a method for recording observable features of the woman's physical state, the identity and interactions of persons in the labor room, a variety of medical interventions and social behaviors, and themes of verbal conversations with the laboring woman. It is a system of categories to time-sample in cycles of 30 seconds for observing followed by 30 seconds for recording. The recording sheet is designed so that 10 observe-record cycles, i.e., ten minutes of real time, are entered on each sheet (see Figure 1).

The categories of the observational instrument are organized into three areas of interest: (1) the woman's physical state, (2) the degree and nature of stimulus contact she experiences and (3) the content of conversations which involve the laboring woman. The focus of the observation session is the woman in labor. Her manifest level of tension or comfort is constantly sampled whether or not she is involved in any form of interaction. During every 30-second interval, several indices are used to define the woman's physical state. First, the presence or absence of a uterine contraction, the primary stress stimulus of labor is recorded. In addition, the woman's pattern of breathing and degree of muscular tension as expressed on her face and in her upper extremities are monitored. Vocalizations covering a range of affect from laughing to screaming as well as quiet or thrashing body movements are coded. Finally, body position is recorded in every interval. The woman may be lying on her back, or either side, sitting or standing.

The second group of categories concerns the extent and nature of the social and medical contacts which the woman experiences. In each 30-second interval, for the father, nurse, obstetrician, or any other person in the labor room, their proximity to and behavioral interactions with the laboring woman are recorded. Within the labor room three locations are defined relative to the woman: face-to-face, near her bedside, and distant positions on the periphery of the room.

Eight categories are used to describe interpersonal contacts with the woman. Four categories refer primarily to supportive social interactions: (1) converse indicates verbal interaction involving the woman; (2) touch refers to physical contact, such as massaging or caressing, which is not an instrumental part of a medical procedure; (3) comfort item describes interactions involving objects which aid in comforting the woman, such as providing a cloth for her forehead or an extra blanket; and (4) breathing indicates the modeling of relaxation breathing patterns. Four additional variables describe interactions which are medically-oriented. These include: 1) all services instrumental to maintenance of patient care such as taking blood pressure; 2) vaginal examination; 3) the administration of medication; and 4) interactions which focus on the fetal-monitoring equipment which may be used in the obstetric unit.

For each interval in which the woman is involved in conversation, informational content of the exchange is coded using nine exhaustive categories. Five categories describe supportive or relatively neutral conversation themes:

well-being indicates concern for the physical or emotional comfort of the woman; baby refers to dialogue about the infant as a person, rather than references to fetal condition; relationship describes conversations which focus on the interpersonal relationship between the woman and another person present; breathing indicates talking about the use of patterned respiration for relaxation purposes; and non-delivery indicates all conversations which do not relate to the woman or the labor setting. In addition, conversations exclusively about medically-related topics are coded using four variables: labor, pain, medication, and hospital procedures.

Following the period of observation, ratings are made of qualitative aspects of social interactions which involve the laboring woman, and her attempts and success at coping with the physical stress of labor (See Table 1). The rating scale includes items pertaining to the physical intimacy of the mother-father relationship, the quality of the mother-father relationship, and the effectiveness of the mother-father system in comforting the mother. The effectiveness of nurses' interventions in the labor room and the obstetrician's interactions with the laboring woman are rated in terms of appropriateness of care to individual physical and emotional needs. For example, a responsive, effective nurse may perform only the necessary nursing tasks when the father and mother are coping effectively and supportively together. With another couple, however, a nurse may appropriately assume the primary interactive and supportive role with the laboring woman. Two additional items reflect a concern with the degree to which a woman in labor attempts to cope with the physical stress of labor and the degree to which she is successful in her coping attempts.

The childbirth observation instrument may be used as a training and research tool. As a training instrument, it can be useful to professionals in heightening their awareness of the process and procedures of labor and in orienting them to a view of the childbirth experience from the perspective of the woman in labor. In research, there are many ways to look at the comprehensive data provided by use of the instrument. Our current research effort is based on a model of maternal coping with labor and delivery which incorporates direct observation of the laboring woman and childbirth environment to examine the complex relationships between prenatal characteristics and experiences of the woman; the actual experience and events of childbirth, and hospital records and medical decisions made based on the woman's behavior; and her postpartum recollection and evaluation of her experience and behavior in the childbirth environment.

A Model of the Childbirth Experience: Interactions Among Physiological, Psychological and Environmental Factors

Psychosomaticists originally incorporated the interaction of physiology and psychology into the study of disease by investigating relationships between personality characteristics and particular disorders. In such a perspective, the childbirth experience is linked with a woman's personality structure (Ostrum, 1975). For example, the literature on uterine dysfunction is replete with studies examining personality characteristics as predispositions toward inefficient functioning of the uterus specifically, and the woman generally, in labor and delivery (Dershimer, 1936; Kartchner, 1950; Cramond, 1954; Watson, 1959; Zuckerman, Nurnberger, Gardiner, Vandiver, Barret and den Breeijen, 1963).

Recent studies in the areas of stress and coping and health and illness behavior have attempted to elucidate the complex interrelationships of psychological, physiological and, in a few cases, environmental factors, with physical and mental health. The physiological significance of psychological events are emphasized in the stress and illness literature. Rahe and Arthur (1978) presented research in the areas of life change and illness. They formulated a model which takes into account environmental, social psychological and physiological characteristics of the individual. This model uses a series of optical lenses and filters to represent important steps along a pathway from a subject's exposure to recent life change events to his eventual report of an illness.

A model of coping with physical illness which encompasses individual and social environmental factors was developed by Moos and Tsu (1977). In this model, the outcome of a crisis is influenced by three sets of factors: 1) background and personal characteristics; 2) illness-related factors; and 3) features of the physical and sociocultural environment.

Kiritz and Moos (1974) earlier had developed a model of the effects of the social environment on physiological processes. It is based in part on Moos' (1973) social ecological approach to the measurement of the perceived social climate. What is important is an individual's perception of the environment which is mediated by personality variables, role and status relationships and his or her behavior within the environment.

Each of these models is relevant to an understanding of childbirth in terms of ability to cope with the physiological stresses of labor and delivery. A schematic representation of the childbirth model--relationships among the psychological, physiological and environmental factors which can be tested--is presented in Figure 2.

The dependent variables. In the proposed model there are two sets of dependent variables: 1) childbirth competence and 2) postpartum childbirth affect. The set of dependent variables which comprise childbirth competence directly reflects the labor and delivery process. Competence is defined by Leiberman (1975) in terms of the absence of breakdown, e.g., whether a person meets the demands of the new situation without showing signs of psychological distress or functional inability. The definition of childbirth competence which follows from Lieberman's definition is a woman's ability to control her behavior and assist in the labor and delivery of her child without showing signs of psychological distress or functional inability. A measure of the variable of psychological comfort is the observed level of behavioral control and relaxation, or alternatively, pain and tension, of the woman in labor.

The functional ability of the parturient woman has been defined by medical researchers in terms of labor length, medications administered, procedures used, and complications of labor or delivery (Dershimer, 1936; Kartchner, 1950; Cramond, 1954; Watson, 1959; Zuckerman et al., 1963). The woman who functions well from a medical standpoint has a shorter labor, requires less medication and fewer procedural interventions, and has fewer complications of labor or delivery. A measure of functional ability is an obstetrical complications score which reflects medical dimensions of the childbirth process.

Thus, two perspectives are represented in the notion of childbirth competence--the behavioral and the medical. It is anticipated that the two measures of childbirth competence will be highly interrelated. A woman who copes well will exhibit greater psychological comfort and greater functional ability than her counterpart who does not meet the demands of the childbirth experience.

A feedback loop is included in the model from this set of dependent variables to childbirth environment stimuli. It is proposed that a woman's behavior and physiological functioning in labor and delivery impacts on the behavior of others in the environment--her husband or nurse. A woman not coping well at some point in labor may be more actively coached by her husband and regain control and some degree of comfort. She, alternatively, may be seen by a nurse as requiring medication to lessen her discomfort, and receive Demerol to help her regain control. As labor is an ongoing process, a woman's childbirth competence at any given time influences the actions of others in the setting who, in turn, affect her behavior.

Both the prenatal factors and the childbirth experience itself contribute to the second set of dependent variables in the model--a woman's postpartum evaluation of the childbirth experience, her postpartum affect. This reflects her assessment of the experience or perception of the childbirth environment, including the behavior of others in the labor and delivery setting and the effectiveness of techniques and procedures used. Aspects of a woman's background and personality have been correlated with such physical aspects of labor as duration, and the occurrence of complications requiring obstetrical intervention. Physical difficulty and possible consequences, e.g., increased use of analgesia and anesthesia, may be related to maternal evaluation of the childbirth experience. In their examination of correlates of childbirth pain, Davenport-Slack and Boylan (1974) reported that exhibited pain in labor contributed to women's recollections of childbirth as a positive or negative experience. Several aspects of the childbirth experience may contribute to postpartum affect--the course of labor, delivery itself, how a woman feels physically and emotionally immediately postpartum. Her willingness to endure labor and delivery again in the future reflects her overall evaluation of the childbirth experience.

General determinants. Moos and Tsu (1977) suggested three categories of general determinants of the outcome of coping with an illness event or injury. These reflect the individual, the illness or physical state of the individual, and the environment. It is these general determinants which influence the individual's ability and/or willingness to cope and the final coping outcome.

Background and personal characteristics serve as resources available to individuals and influence the meaning an illness has for a person. Age, educational level, marital status and income, for example, may be resources to a woman's ability to cope with the childbirth experience. Werts et al. (1965) indicated that education was the most important among variables they examined. Insofar as older, white, married, private (vs. clinic) status, higher socioeconomic status women happen to be better educated they will have less difficult labors. Education was thought to provide a person with the means of better understanding and coping with new situations. Liu (1974) contended that unwed women and women who bear a financial burden may be more likely to approach labor with fear. This fear could alter their self-control and the course of their labors.

Various aspects of a woman's past experience have been associated with attitudes toward pregnancy and childbirth. A woman's history of being parented, and her interest in and experience with children are included as aspects of relevant past experience. These may be related to her expectations for childbearing.

Davenport-Slack and Boylan (1974) indicated that the factors which contribute to childbirth outcome involve a central underlying factor--that of self-reliance, self-control and independence. A woman may imagine herself to be more or less in control or responsible for what happens during childbirth. She may expect to exert more or less of an influence on the environment. A woman's sense of competence--her feelings about her history of mastery or control--is a component of her personal characteristics and past experience.

These variables may be considered what Rahe and Arthur (1978) term "biographical assets." They serve as resources which facilitate a woman's coping with the labor and delivery experience. Representative hypotheses which follow from this include:

a) The older the woman, the greater her childbirth competence and the more positive her postpartum childbirth affect.

b) The higher a woman's educational level, the greater her childbirth competence and the more positive her postpartum childbirth affect.

Pregnancy-related factors are a second category of the general determinants. The psychological impact of physiological changes has been suggested to influence an individual's appraisal of an illness event or injury (Moos and Tsu, 1977). Physical and psychological well-being have been documented to be highly interrelated (Levi, 1967). Researchers who study stressful life events have shown relationships between changes in life-style, job, or roles and illness frequency and severity (Hinkle, 1974). Eichler et al. (1977) have raised questions about the extent to which the psychological well-being of the mother during pregnancy affects the psychological well-being of the child. Relationships between maternal attitudes during pregnancy, analgesic medication during labor and delivery, and newborn behavior have been suggested by Yang, Zweig, Douthitt and Federman (1976). Clearly a sense of well-being during pregnancy can be seen as a resource which may be related to behavior during labor and delivery and postpartum evaluation of the experience.

Representative hypotheses which reflect pregnancy-related factors include the following:

a) The greater a woman's physical well-being during pregnancy, the greater her childbirth competence and the more positive her postpartum childbirth affect.

b) The greater a woman's psychological well-being during pregnancy, the greater her childbirth competence and the more positive her postpartum childbirth affect.

The physical and social environment play a role as general determinants influencing coping outcome. The role of social support in coping with crisis has been documented in a variety of circumstances (Erickson, Crabek, Key and Crowe, 1976). Rahe and Arthur (1978) indicated that individuals who are socially isolated may see life events as burdensome. Lieberman (1975) suggested that the extent, range and quality of interpersonal relationships reflect how well a person is functioning, and contribute to adaptive functioning across the life-span. Nuckolls (1975) emphasized that it may be necessary to assess the balance between stress and the nature and strength of supportive or protective elements rather than to measure only the strength and duration of stress. She considered social support a psychosocial asset which promoted an individual's ability to adapt to change; a person's response to stressful stimuli is in part a function of his or her psychosocial assets. The quality of a woman's relationship with her husband is indicative of social support available to her. A pregnancy may serve to enhance or detract from this relationship.

Prenatal stress may influence women's expectations, behavior and evaluations of childbirth. Childbirth and the transition to parenthood have been labeled as crisis or stressful events (Levy and McGee, 1975; Hobbs and Cole, 1976). Levy and McGee employed Janis's theory of stress as they felt it specified the kinds of prestress-impact attitudes associated with the resolution of an experience that were particularly relevant to childbirth. Distress during labor may arise from fairly superficial or recent emotional tension (Stewart and Scott, 1953). Prenatal anxiety may contribute to a woman's expectations for and behavior during labor and delivery as well as her post-delivery assessment of the experience.

Representative hypotheses to be tested follow from this discussion:

a) The better the quality of the husband-wife relationship, the greater a woman's childbirth competence and the more positive her postpartum childbirth affect.

b) The less prenatal anxiety a woman experiences, the greater her childbirth competence and the more positive her postpartum childbirth affect.

Cognitive appraisal of the childbirth experience. Cognitive appraisal or the perception of an illness or life event involves the meaning or significance an illness or event has for an individual. In the context of childbirth, appraisal of the event is a woman's expectations for labor and delivery. Childbirth is unique from most illness or injury events in that it is an experience which is anticipated for a period of time and for which plans can be made.

Levy and McGee (1975) indicated that the evaluation of childbearing is related to expectations concerning childbirth. Women who reported that childbirth was a favorable experience also indicated that childbirth was better than they expected it would be. The affect of expectations for labor and delivery is one aspect of cognitive appraisal.

The clarity of expectations was also considered important by Levy and McGee. The communication of realisitc information concerning the anticipated stress situation permits rehearsal of the negative aspects of the experience. This allows women to prepare themselves psychologically for childbirth. Rehearsing alternative outcomes is considered by Moos and Tsu (1977) as a type of coping

skill. The clarity of expectations, and any resultant rehearsal of alternative outcomes is considered to be part of a woman's cognitive appraisal of the childbirth experience. A parallel relationship is thought to exist between expectation clarity and coping success in that an individual with clear expectations (and probably rehearsal of outcomes experience) is thought to cope more successfully with the stressful event.

Hypotheses which follow from this component of the model include:

a) The more positive the affect of a woman's expectations for childbirth, the greater her childbirth competence and the more positive her postpartum childbirth affect.

b) The greater the clarity of a woman's expectations for childbirth, the greater her childbirth competence and the more positive her postpartum childbirth affect.

Psychophysiological adaptability. Moos and Tsu (1977) outlined seven adaptive tasks--illness-related and general--and seven coping skills which are employed to meet the demands of an individual's adaptive tasks. The adaptive tasks vary with the individual and the nature of the illness. Coping skills, therefore, vary with an individual's adaptive tasks. "A crisis situation usually presents a variety of tasks and requires a combination or sequence of coping skills" (p. 15).

Rahe and Arthur (1978) discussed psychophysiologic response and resultant response reduction using "response management" techniques. "Cognitive strategies" include several techniques of psychological coping such as minimalization, distraction, avoidance, and selective awareness in the reduction of symptoms. Coping is used in their model as conscious response management practices; defense is considered unconscious response.

In this model the concept of psychophysiological adaptability is developed to encompass both adaptive tasks and coping skills of the physiological and psychological kind. This component contributes to the perception of the childbirth environment and physiological changes and behavior in labor and delivery.

There are three categories of adaptability: 1) psychological perspective; 2) preparation; and 3) "support-ability." Psychological perspective incorporates the Moos and Tsu (1977) coping skills of denying or minimizing the seriousness of a crisis and putting an experience into long-term perspective, and the general adaptive tasks related to an individual's feelings about him or herself. For example, minimizing the amount of pain a woman anticipates in labor may be adaptive, i.e., facilitate her coping with labor and delivery. The planning of the pregnancy implies whether the pregnancy and birth of the child is consonant with a woman's goals and image of herself. Whether a pregnancy is planned is a complex motivational factor which may affect a woman's attitude toward a particular pregnancy (Grimm, 1967). For example, an unplanned pregnancy may require a reallocation of family resources which is not consonant with current family aims. On the other hand, a couple who has planned for the birth of a child may adapt more easily to the demands of childbirth and parenting. A woman's confidence as a mother is a concept which bridges both the notion of minimizing the crisis as well as putting it into long-term perspective.

Preparation for childbirth involves seeking relevant information about labor and delivery and learning specific illness-related procedures in an effort to deal with the discomfort of labor and the stresses of treatment procedures and aspects of the hospital environment. Advocates of prepared childbirth suggest that the amount of information a woman knows about childbirth is related to her fear, tension and ability to cope with labor and delivery (Dick-Read, 1959). Doering and Entwisle (1975) reported that more-prepared women were more aware during labor and delivery. This was associated with positive reactions to the infant. Preparation for childbirth has been correlated with less medication and anesthesia during labor and delivery (Zax, Sameroff and Farnum, 1975; Stevens and Heide, 1977).

"Support-ability" in this component refers to a woman's ability to request reassurance and emotional support specifically during pregnancy and childbirth. White (1971) indicated that the ability and disposition to make use of other's help on one's own terms is relevant to the notion of competence. The degree of helpfulness of her husband during pregnancy may be more predictive of his support during labor than a woman's overall rating of marital satisfaction. Her relationship with her obstetrician and the support and involvement of friends and relatives in the prenatal period speak to her ability to elicit reassurance and support specifically during the pregnancy.

The following representative hypotheses are suggested by this discussion:

a) The more a woman minimizes her anticipated pain in childbirth, the greater her childbirth competence and the more positive her postpartum childbirth affect.

b) The more prepared a woman for childbirth, the greater her childbirth competence and the more positive her postpartum childbirth affect.

c) The more support a woman elicits from her husband, friends and relatives and obstetrician during pregnancy, the greater her childbirth competence and the more positive her postpartum childbirth affect.

Childbirth environment stimuli. Kiritz and Moos (1974) outlined three dimensions of the social environment which impact on physiological and behavioral responses. These dimensions are not unlike the general determinants of coping behavior outlined by Moos and Tsu (1977). The function of these dimensions is essentially the same in that they are a system of influences postulated to influence individual behavior by affecting a person's perception of the environment.

The relationship dimension in the childbirth environment would include aspects of the husband-wife relationship, e.g., the degree of intimacy of their interactions, the quality of their interactions, and the effectiveness of their interactions in comforting the woman. The personal dimension refers to the nature of environmental support of the woman and her resultant behavior. A woman's willingness and ability to control her behavior in labor reflects the environmental support she receives and is a component of the enviornmental stimuli.

System maintenance and system change dimensions refer to the "atmosphere" of the institution or environment. Medical procedures and the attitudes of medical staff members reflect aspects of system "atmosphere" such as environmental clarity or pressure. In the childbirth environment, hospital "atmosphere"

is reflected in nursing and physician care and the degree of nurse and obstetrician responsiveness. The nurse who is supportive of a woman will strengthen the woman's ability to function capably and to her satisfaction (Kopp, 1971).

Suggested hypotheses include the following:

a) The greater the degree of intimacy of the husband-wife relationship during labor, the greater a woman's childbirth competence and the more positive her postpartum childbirth affect.

b) The better the quality of husband-wife interaction during labor, the greater a woman's childbirth competence and the more positive her postpartum childbirth affect.

c) The greater the effectiveness of husband-wife interactions in comforting the parturient woman, the greater her childbirth competence and the more positive her postpartum childbirth affect.

d) The greater the woman's willingness and ability to control her behavior during labor, the greater her childbirth competence and the more positive her postpartum childbirth affect.

e) The greater the responsiveness of medical staff members, the greater a woman's childbirth competence and the more positive her postpartum childbirth affect.

Perception of the childbirth environment. It is difficult to discern a woman's perception of the childbirth environment during the labor and delivery process, but perceptions can be tapped in interviews shortly after the birth. Another measure of a woman's perceptions of the environment might be her behavior in that environment. In this model, a woman's perception and behavior are linked.

Applications of the Observation Instrument

The model presented highlights data provided by the childbirth observation instrument. Objective data on the childbirth experience and events, the interactions of husband and wife, and a woman's attempts and success in coping can be compared with prenatal characteristics of the woman and her pregnancy experience, and with postpartum recollections of childbirth. Observation data on the medical and social events of the labor room also can be used to augment other data on the course of labor and delivery such as those obtained from medical records. The comparison of these three sources of data on childbirth--the report of the participant, the record of the observer, and medical record information--provides for comparison of disparate views of the childbirth experience. Analysis may also explore subtleties of medical record data collection and reliability, and aspects of the subjective recall of an experience with affective components.

It is possible to examine in greater detail hypothesized relationships between childbirth variables and postpartum outcomes. Previous research has suggested the importance of childbirth events to such outcomes as infant temper-

ament and parent-infant interaction. Typical outcome measures include the Brazelton Neonatal Behavioral Assessment Scale (Standley, Soule, Copans, and Klein, 1978), parental perceptions of infants (Pedersen, 1977), and observation assessments of parents' interaction with the children (Brown, Bakeman, Snyder, Fredrickson, Morgan and Hepler, 1975).

The investigation of perinatal relationships requires a multidisciplinary approach to the events of pregnancy, childbirth and postpartum period. Data must be obtained across time, using several data collection procedures, in any effort to tap the richness of the parenting experience.

Finally, it is important to comment on the difficulties inherent in conducting behavioral, naturalistic research within a hospital environment. The researcher must become familiar with a variety of medical personnel and procedures as well as adapt to the intimate and at times crisis climate of the labor room. Moreover, to accomplish the task of direct observation of women in a large, busy obstetric unit, the researcher is dependent on daily cooperation from hospital staff. It also is important to emphasize that naturalistic observation requires a great deal of sensitivity to the atmosphere and events of a setting and the needs of the people involved.

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Table 1. Rating Scales

I. Physical Intimacy of Mother-Father Relationship:

1. Limited physical contact
2. Moderate amount of touching, soothing
3. Almost continual physical contact, holding, embracing

II. Quality of Mother-Father Relationship:

1. Withdrawn-rejecting; limited interaction
2. Occasional involvement
3. Warm, involved interaction

III. Effectiveness of Mother-Father System in Comforting the Mother:

1. Limited efforts to interact for support or comfort
2. Supportive efforts inadequate or ineffective
3. Synchronous interaction effective in comforting the mother

IV. Effectiveness of Nursing Care (Primary Nurse):

1. Withdrawn-hostile
2. Supportive efforts inadequate or inappropriate
3. Facilitating and responsive

V. Effectiveness of Physician Care ( ):

1. Withdrawn-hostile
2. Supportive efforts inadequate or inappropriate
3. Facilitating and responsive

VI. Attempts of Woman to Cope with Physical Stress of Labor:

1. Few or no attempts made
2. Some attempt at coping made
3. Active, involved effort to cope

VII. Ability of Woman to Cope with Physical Stress of Labor

1. Behavior uncontrolled; woman generally uncomfortable
2. Behavior in control at times; woman coping with moderate success
3. Woman appears generally comfortable and in control of her behavior

	Contraction	Breathing	Tension	Vocalization	Movement	Position
	Contraction Rest Both	Regular Deep Shallow Pant Push Irregular	Relaxed Tense V. Tense	Lal-Smile Cry Scream Moan X	Movement Stable	Back Side Sit Stand
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						

In Room	Event	Proximity	Conversation Content
	Converse Touch Item Maintenance Exam Medication Equipment Breathing X	Face Near Distant	Labor Well-Being Pain Medication Procedure- Environment Baby Relationship Breathing Non Delivery X
F			
N			
Ob			
F			
N			
Ob			
F			
N			
Ob			
F			
N			
Ob			
F			
N			
Ob			
F			
N			
Ob			
F			
N			
Ob			
F			
N			
Ob			

Name _____

_____ Pg

Notes

Figure 1. Childbirth Observation Instrument Coding Sheet

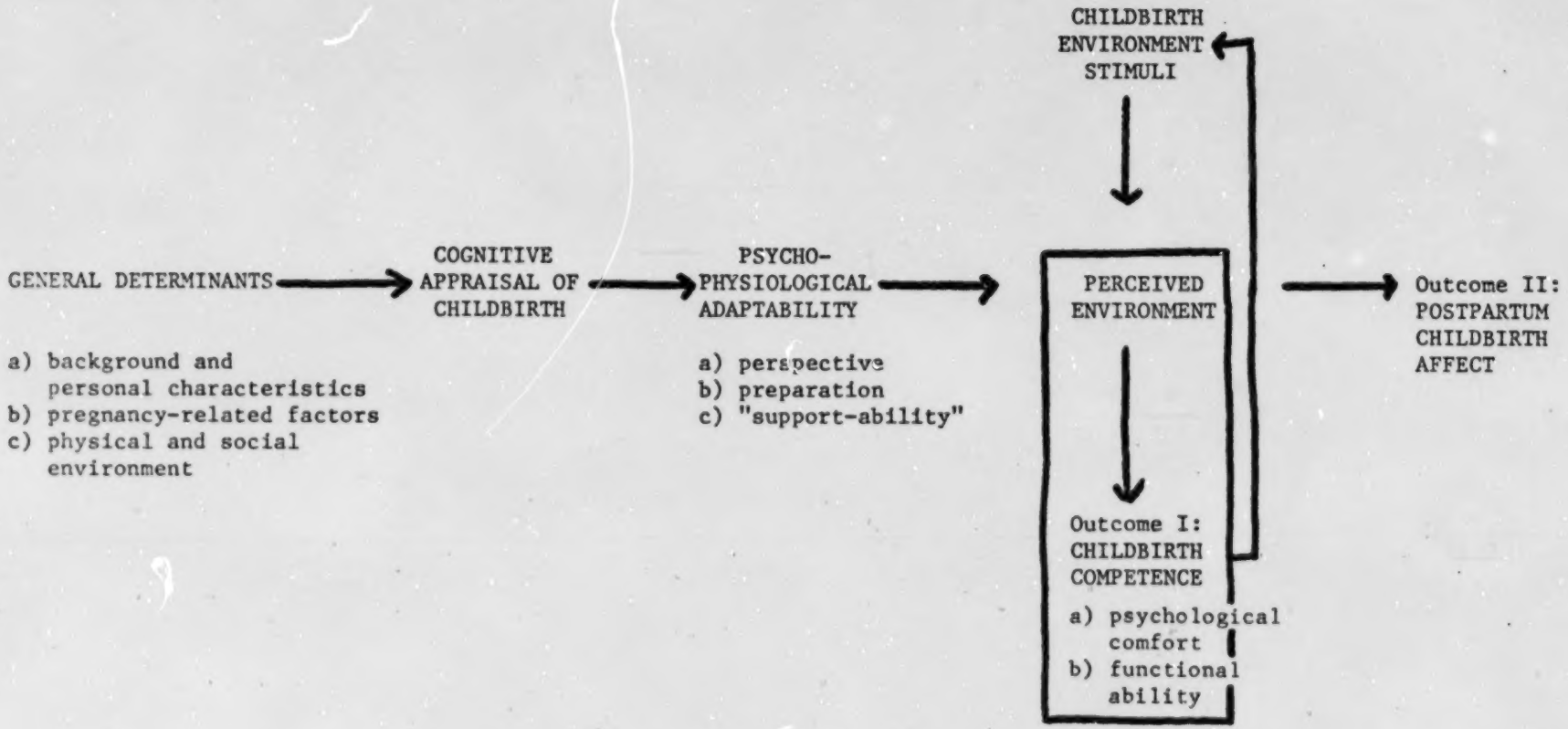

Figure 2. A MODEL OF MATERNAL COPING DURING LABOR AND DELIVERY AND EVALUATION OF THE CHILDBIRTH EXPERIENCE